

WRITING FORMULAS (CRISS-CROSS METHOD)

Name _____

Write the formulas of the compounds produced from the listed ions.

*Need to add
charges!*

	Cl	CO ₃	OH	SO ₄	PO ₄	NO ₃
Na						
NH ₄						
K						
Ca						
Mg						
Zn						
Fe Ferric						
Al						
Co						
Fe Ferrous						
H						

NAMING IONIC COMPOUNDS

Name _____

Name the following compounds using the Stock Naming System.

1. CaCO_3 _____

2. KCl _____

3. FeSO_4 _____

4. LiBr _____

5. MgCl_2 _____

6. FeCl_3 _____

7. $\text{Zn}_3(\text{PO}_4)_2$ _____

8. NH_4NO_3 _____

9. $\text{Al}(\text{OH})_3$ _____

10. $\text{CuC}_2\text{H}_3\text{O}_2$ _____

1. PbSO_3 _____

2. NaClO_3 _____

3. CaC_2O_4 _____

4. Fe_2O_3 _____

5. $(\text{NH}_4)_3\text{PO}_4$ _____

6. NaHSO_4 _____

7. Hg_2Cl_2 _____

8. $\text{Mg}(\text{NO}_2)_2$ _____

9. CuSO_4 _____

10. NaHCO_3 _____

11. NiBr_3 _____

12. $\text{Be}(\text{NO}_3)_2$ _____

13. ZnSO_4 _____

14. AuCl_3 _____

15. KMnO_4 _____

WRITING FORMULAS FROM NAMES

Name _____

Write the formulas of the following compounds.

1. ammonium phosphate _____
2. iron (II) oxide _____
3. iron (III) oxide _____
4. carbon monoxide _____
5. calcium chloride _____
6. potassium nitrate _____
7. magnesium hydroxide _____
8. aluminum sulfate _____
9. copper (II) sulfate _____
10. lead (IV) chromate _____
11. diphosphorus pentoxide _____
12. potassium permanganate _____
13. sodium hydrogen carbonate _____
14. zinc nitrate _____
15. aluminum sulfite _____

NAMING MOLECULAR COMPOUNDS

Name _____

Name the following covalent compounds.

1. CO_2 _____
2. CO _____
3. SO_2 _____
4. SO_3 _____
5. N_2O _____
6. NO _____
7. N_2O_3 _____
8. NO_2 _____
9. N_2O_4 _____
10. N_2O_5 _____
11. PCl_3 _____
12. PCl_5 _____
13. NH_3 _____
14. SCl_6 _____
15. P_2O_5 _____
16. CCl_4 _____
17. SiO_2 _____
18. CS_2 _____
19. OF_2 _____
20. PBr_3 _____

NAMING ACIDS

Name _____

Name the following acids.

1. HNO_3 _____
2. HCl _____
3. H_2SO_4 _____
4. H_2SO_3 _____
5. $\text{HC}_2\text{H}_3\text{O}_2$ _____
6. HBr _____
7. HNO_2 _____
8. H_3PO_4 _____
9. H_2S _____
10. H_2CO_3 _____

Write the formulas of the following acids.

11. sulfuric acid _____
12. nitric acid _____
13. hydrochloric acid _____
14. acetic acid _____
15. hydrofluoric acid _____
16. phosphorous acid _____
17. carbonic acid _____
18. nitrous acid _____
19. phosphoric acid _____
20. hydrosulfuric acid _____

Write the names for the following compounds

$\text{BaSO}_4 \cdot 2\text{H}_2\text{O}$ _____

N_2O_6 _____

$\text{Ca}(\text{ClO}_3)_2$ _____

H_3PO_4 _____

$\text{Mg}(\text{C}_2\text{H}_3\text{O}_2)_2$ _____

HClO _____

CBr_4 _____

LiHCO_3 _____

NH_3 _____

H_2CO_3 _____

Write the formulas for the following compounds

sodium carbonate _____

ferric chlorate _____

lithium dichromate _____

phosphorous pentasulfide _____

silicon tetraiodide _____

calcium permanganate _____

phosphoric acid _____

nitrogen dioxide _____

chromic acid _____

hydrofluoric acid _____

Write the names for the following compounds

$\text{BaSO}_4 \cdot 2\text{H}_2\text{O}$ _____

N_2O_6 _____

$\text{Ca}(\text{ClO}_3)_2$ _____

H_3PO_4 _____

$\text{Mg}(\text{C}_2\text{H}_3\text{O}_2)_2$ _____

HClO _____

CBr_4 _____

LiHCO_3 _____

NH_3 _____

H_2CO_3 _____

Write the formulas for the following compounds

sodium carbonate _____

ferric chlorate _____

lithium dichromate _____

phosphorous pentasulfide _____

silicon tetraiodide _____

calcium permanganate _____

phosphoric acid _____

nitrogen dioxide _____

chromic acid _____

hydrofluoric acid _____

Name _____

Date _____

Chemistry AF
Naming Compounds Practice

Directions. Give the name or formula for each compound. Start by determining what type of compound it is.

1. KSCN

2. $\text{Fe}(\text{ClO}_3)_2$

3. $\text{Zn}(\text{NO}_3)_2$

4. N_2O_3

5. NaHCO_3

6. H_2CO_3

7. KMnO_4

8. HF

9. $\text{NH}_4\text{C}_2\text{H}_3\text{O}_2$

10. MgSO_4

11. SO_2

12. $(\text{NH}_4)_3\text{PO}_4$

13. P_2O_5

14. CuSO_4

15. CO_2

16. calcium hydroxide

17. acetic acid

18. phosphorus tribromide

19. hydrofluoric acid

20. sulfur hexachloride

21. iron(III) chromate

22. hydronium sulfide

23. phosphoric acid

24. mercury(II) chloride

25. copper(I) acetate

26. aluminum hydroxide

27. carbon disulfide

28. hydrobromic acid

29. ammonium phosphate

30. barium hydroxide

Write the name for the following compounds. Use the Stock system where appropriate.

- | | | |
|---|---------------------------------|--|
| 1 NH_4NO_2 _____ | 13 SiO_2 _____ | 20 K_2SO_3 _____ |
| 2 $\text{Ca}(\text{HCO}_3)_2$ _____ | _____ | 21 Cu_2S _____ |
| 3 $\text{Ba}(\text{ClO}_3)_2$ _____ | 14 PCl_3 _____ | 22 KHSO_4 _____ |
| 4 Hg_2I_2 _____ | _____ | 23 ZnBr_2 _____ |
| 5 KCN _____ | 15 SiF_4 _____ | 24 $\text{Fe}_2(\text{CrO}_4)_3$ _____ |
| 6 PbO_2 _____ | _____ | 25 NaClO_4 _____ |
| 7 KSCN _____ | 16 N_2O _____ | 26 KClO _____ |
| 8 $\text{Zn}(\text{C}_2\text{H}_3\text{O}_2)_2$ _____ | _____ | 27 Mg_3N_2 _____ |
| 9 K_2SO_4 _____ | 17 SO_3 _____ | 28 Na MnO_4 _____ |
| 10 $\text{Hg}(\text{OH})_2$ _____ | _____ | 29 KMnO_4 _____ |
| 11 N_2O_5 _____ | 18 ClO_2^- _____ | 30 NO _____ |
| _____ | _____ | _____ |
| 12 IF_5 _____ | 19 P_4S_3 _____ | 31 SF_4 _____ |
| _____ | _____ | _____ |

Write chemical formulas for the following compounds

- | | | |
|-------------------------------|-----------------------------|------------------------------|
| 31 Mercury (I) Cyanide _____ | 41 Sodium Nitrite _____ | 51 Potassium Carbonate _____ |
| 32 Hydrosulfuric Acid _____ | 42 Iron(III) Oxide _____ | 52 Silver Sulfide _____ |
| 33 Iron (II) Acetate _____ | 43 Aluminum Hydroxide _____ | 53 Nitrous Acid _____ |
| 34 Potassium Chlorate _____ | 44 Ammonium Hydroxide _____ | 54 Calcium Phosphate _____ |
| 35 Lead (II) Fluoride _____ | 45 Magnesium Chloride _____ | 55 Copper(II) Nitrate _____ |
| 36 Hydrobromic Acid _____ | 46 Hydrochloric Acid _____ | 56 Magnesium Sulfide _____ |
| 37 Ammonium Oxalate _____ | 47 Cuprous Oxide _____ | 57 Aluminum Oxide _____ |
| 38 Mercury(II) Chromate _____ | 48 Potassium Sulfate _____ | 58 Barium Nitride _____ |
| 39 Silver Phosphate _____ | 49 Zinc Oxide _____ | 59 Lead(II) Sulfate _____ |
| 40 Potassium Dichromate _____ | 50 Barium Sulfite _____ | 60 Hypochlorous Acid _____ |

GRAM FORMULA MASS

Name _____

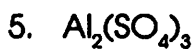
determine the gram formula mass (the mass of one mole) of each compound below.

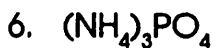






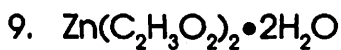




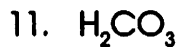


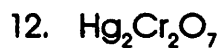




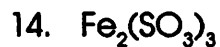














THE MOLE AND AVOGADRO'S NUMBER

Name _____

One mole of a substance contains Avogadro's Number (6.02×10^{23}) of molecules.

How many molecules are in the quantities below?

1. 2.0 moles

2. 1.5 moles

3. 0.75 mole

4. 15 moles

5. 0.35 mole

How many moles are in the number of molecules below?

1. 6.02×10^{23}

2. 1.204×10^{24}

3. 1.5×10^{20}

4. 3.4×10^{26}

5. 7.5×10^{19}

MOLES AND MASS

Name _____

Determine the number of moles in each of the quantities below.

1. 25 g of NaCl

2. 125 g of H_2SO_4

3. 100. g of KMnO_4

4. 74 g of KCl

5. 35 g of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

Determine the number of grams in each of the quantities below.

1. 2.5 moles of NaCl

2. 0.50 moles of H_2SO_4

3. 1.70 moles of KMnO_4

4. 0.25 moles of KCl

5. 3.2 moles of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$



Unit 2

C.3 SUPPLEMENT: MOLAR MASS COMPUTATION AND CONVERSIONS

Molar Mass Computations

The **molar mass** of a substance is the mass of one mole (6.02×10^{23} units) of any substance. For the purpose of this course, we will use the nearest whole-number value of the atomic masses found on the Periodic Table.

To find the molar mass of a substance, multiply the number of atoms of each element by the atomic mass of the element. Then add the masses of the various elements.

Example 1: What is the molar mass of iron(III) oxide, Fe_2O_3 ?

$$\begin{array}{r} 2 \text{ Fe} = 2 \times 56 = 112 \\ 3 \text{ O} = 3 \times 16 = 48 \\ \hline \text{Fe}_2\text{O}_3 \quad \quad \quad 160 \text{ g/mol} \end{array}$$



Example 2: What is the molar mass of magnesium hydroxide, $\text{Mg}(\text{OH})_2$?

$$\begin{array}{r} 1 \text{ Mg} = 1 \times 24 = 24 \\ 2 \text{ O} = 2 \times 16 = 32 \\ 2 \text{ H} = 2 \times 1 = 2 \\ \hline \text{Mg}(\text{OH})_2 \quad \quad = 58 \text{ g/mol} \end{array}$$

Determine the molar mass of each substance.

1. Nitrogen gas: N_2
2. Sodium chloride (table salt): NaCl
3. Sucrose (table sugar): $\text{C}_{12}\text{H}_{22}\text{O}_{11}$
4. Chalcopyrite: CuFeS_2
5. Malachite: $\text{Cu}_2\text{CO}_3(\text{OH})_2$



Mole-Mass Conversions

Once the molar mass of a substance is known, it is fairly easy to calculate moles from grams or grams from moles.

Example 3: How many moles are present in 352 g of iron(III) oxide, Fe_2O_3 ? This can be expressed in two ways. It is either

- 160 g of Fe_2O_3 contains 1 mole (160 g/1 mol) or
- 1 mole of Fe_2O_3 contains 160 g (1 mol/160 g)

Either fraction may be used as a conversion factor so that the units of a calculation will cancel.

Step 1: Calculate the molar mass of iron(III) oxide. From Example 1, it is 1 mol = 160 g.

Step 2: Arrange the molar mass so the original units cancel and the desired units are on top.

$$352 \text{ g} \times \frac{1 \text{ mol}}{160 \text{ g}} = 2.2 \text{ mol of } \text{Fe}_2\text{O}_3$$

Example 4: How many grams are present in 1.43 moles of magnesium hydroxide, $\text{Mg}(\text{OH})_2$?

Step 1: Calculate the molar mass of magnesium hydroxide. From Example 2, it is 1 mol = 58 g.

Step 2: Arrange the molar mass so the original units cancel and the desired units are on top.

$$1.43 \text{ mol} \times \frac{58 \text{ g}}{1 \text{ mol}} = 83 \text{ g of } \text{Mg}(\text{OH})_2$$

Calculate the following. (*Hint:* The molar masses are from Questions 1–6.)

- 1.0 mol of Azurite, $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$, is how many grams?
- 6.3 mol of N_2 is how many grams?
- 84.6 g of NaCl is how many moles?
- 564 g of $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ is how many moles?
- 3.95 mol of CuFeS_2 is how many grams?
- 0.985 g of $\text{Cu}_2\text{CO}_3(\text{OH})_2$ is how many moles?
- 36.5 mol of $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$ is how many grams?

Unit 2

C.4 SUPPLEMENT: PERCENT COMPOSITION OF MATERIALS AND CONSERVATION OF MASS

Example: What percent of iron(III) hydroxide, $\text{Fe}(\text{OH})_3$, is oxygen?

Step 1: Find the molar mass of the compound.

$$\begin{array}{rcl} 1 \text{ Fe} & = & 56 \text{ g} \\ 3 \text{ O} & = 3 \times 16 & = 48 \text{ g} \\ 3 \text{ H} & = 3 \times 1 & = 3 \text{ g} \\ \hline & & = 107 \text{ g/mol} \end{array}$$

Step 2: Find the percentage by dividing the part by the whole and multiplying by 100.

$$\frac{48 \text{ g oxygen}}{107 \text{ g total}} \times 100 = 45\%$$

1. What percent of magnesium bromide, MgBr_2 , is magnesium?
2. What percent of glucose, $\text{C}_6\text{H}_{12}\text{O}_6$, is carbon?
3. What percent is zinc of $\text{Zn}_3(\text{PO}_4)_2$?
4. What percent of AgNO_3 is silver?
5. Which has the higher percent of aluminum, Al_2O_3 or $\text{Al}(\text{NO}_3)_3$?

Find the mass of 0.89 mol of CaCl_2 .

Determine the number of atoms that are in 0.58 mol of Se.

A bottle of PbSO_4 contains 158.1 g of the compound. How many moles of PbSO_4 are in the bottle?

How many moles of barium nitrate (BaNO_3) contain 6.80×10^{24} formula units?

Find the mass of 1.112 mol of HF.

Determine the number of atoms that are in 1.25 mol of O_2 .

Determine the number of moles of C_5H_{12} that are in 362.8 g of the compound.

How many moles of magnesium bromide (MgBr_2) contain 5.38×10^{24} formula units?

How many formula units are in 1.4 g of PbCl_2 ?

If you burned 6.10×10^{24} molecules of ethane (C_2H_6), what mass of ethane did you burn?

Determine the mass of 2.94×10^{24} molecules of decane ($\text{C}_{10}\text{H}_{22}$).

How many formula units are in 5.1 g of TiO_2 ?

How many formula units are in 5.6 g of H_2S ?

What is the mass of 3.62×10^{24} molecules of methanol (CH_3OH)?

A bottle of KMnO_4 contains 66.38 g of the compound. How many moles of KMnO_4 does it contain?

How many formula units are in 3.5 g of NaOH?

PERCENTAGE COMPOSITION

Name _____

Determine the percentage composition of each of the compounds below.



K = _____

Mn = _____

O = _____



H = _____

Cl = _____



Mg = _____

N = _____

O = _____

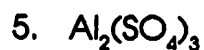


N = _____

H = _____

P = _____

O = _____



Al = _____

S = _____

O = _____

Solve the following problems.

6. How many grams of oxygen can be produced from the decomposition of 100. g of KClO_3 ? _____

7. How much iron can be recovered from 25.0 g of Fe_2O_3 ? _____

8. How much silver can be produced from 125 g of Ag_2S ? _____

FORMULAS AND NAMES

Write the names for the following compounds. Use the Stock system where appropriate.

- | | |
|--|--|
| 1. CaCO_3 _____ | 11. H_2SO_4 _____ |
| 2. FeO _____ | 12. $\text{Zn}(\text{NO}_3)_2$ _____ |
| 3. H_2CO_3 _____ | 13. CuSO_4 _____ |
| 4. $\text{Ca}_3(\text{PO}_4)_2$ _____ | 14. AlCl_3 _____ |
| 5. AgCl _____ | 15. NaOH _____ |
| 6. $\text{Ba}(\text{OH})_2$ _____ | 16. PbCl_2 _____ |
| 7. Na_2S _____ | 17. KNO_3 _____ |
| 8. FeCl_2 _____ | 18. $\text{Mg}(\text{OH})_2$ _____ |
| 9. H_2CrO_4 _____ | 19. HClO_3 _____ |
| 10. $(\text{NH}_4)_2\text{SO}_4$ _____ | 20. $\text{H}_2\text{C}_2\text{O}_4$ _____ |

write chemical formulas for the following compounds

- | | |
|------------------------------|-------------------------------|
| 21. Sodium Nitrite _____ | 31. Potassium Carbonate _____ |
| 22. Iron(III)Oxide. _____ | 32. Silver Sulfide _____ |
| 23. Aluminum Hydroxide _____ | 33. Nitrous Acid _____ |
| 24. Ammonium Hydroxide _____ | 34. Calcium Phosphate _____ |
| 25. Magnesium Chloride _____ | 35. Copper(II)Nitrate _____ |
| 26. Hydrochloric Acid _____ | 36. Magnesium Sulfide _____ |
| 27. Cuprous Oxide _____ | 37. Aluminum Oxide _____ |
| 28. Potassium Sulfate _____ | 38. Barium Nitride _____ |
| 29. Zinc Oxide _____ | 39. Lead(II)Sulfate _____ |
| 30. Barium Sulfite _____ | 40. Hypochlorous Acid _____ |

Write the name for the following compounds. Use the Stock system where appropriate.

41. NH_4NO_2 _____ 51. K_2SO_3 _____

42. $\text{Ca}(\text{HCO}_3)_2$ _____ 52. Cu_2S _____

43. $\text{Ba}(\text{ClO}_3)_2$ _____ 53. KHSO_4 _____

44. Hg_2I_2 _____ 54. ZnBr_2 _____

45. KCN _____ 55. $\text{Fe}_2(\text{CrO}_4)_3$ _____

46. PbO_2 _____ 56. NaClO_4 _____

47. KSCN _____ 57. KClO _____

48. $\text{Zn}(\text{C}_2\text{H}_3\text{O}_2)_2$ _____ 58. Mg_3N_2 _____

49. K_2SO_4 _____ 59. Na_2MnO_4 _____

50. $\text{Hg}(\text{OH})_2$ _____ 60. KMnO_4 _____

Write chemical formulas for the following compounds

61. Mercury (I) Cyanide _____ 71. Barium Nitride _____

62. Hydrosulfuric Acid _____ 72. Sodium Peroxide _____

63. Iron (II) Acetate _____ 73. Cupric Bromide _____

64. Potassium Chlorate _____ 74. Ammonium Sulfide _____

65. Lead (II) Fluoride _____ 75. Calcium Nitrate _____

66. Hydrobromic Acid _____ 76. Zinc Hydroxide _____

67. Ammonium Oxalate _____ 77. Sodium Hydrogen Carbonate _____

68. Mercury(II) Chromate _____ 78. Lead (IV) Oxide _____

69. Silver Phosphate _____ 79. Potassium Perchlorate _____

70. Potassium Dichromate _____ 80. Mercurous Iodide _____

CHAPTER 7 REVIEW

Chemical Formulas and Chemical Compounds

MIXED REVIEW

SHORT ANSWER Answer the following questions in the space provided.

- Write formulas for the following compounds:
 - copper(II) carbonate
 - sodium sulfite
 - ammonium phosphate
 - tin(IV) sulfide
 - nitrous acid
- Write the ~~stock~~ names for the following compounds:
 - $\text{Mg}(\text{ClO}_4)_2$
 - $\text{Fe}(\text{NO}_3)_2$
 - $\text{Fe}(\text{NO}_2)_3$
 - CoO
 - dinitrogen pentoxide
- How many atoms are represented by the formula $\text{Ca}(\text{HSO}_4)_2$?
 - How many moles of oxygen atoms are in a 0.50 mol sample of this compound?
 - Assign the oxidation number to sulfur in the HSO_4^- anion.
- Assign the oxidation number to the element specified in each of the following:
 - hydrogen in H_2O_2
 - hydrogen in MgH_2
 - sulfur in S_8
 - carbon in $(\text{CO}_3)^{2-}$
 - chromium in $\text{Na}_2\text{Cr}_2\text{O}_7$
 - nitrogen in NO_2

MIXED REVIEW continued

PROBLEMS Write the answer on the line to the left. Show all your work in the space provided.

- Following are samples of four different compounds. Arrange them in order of increasing mass, from smallest to largest.

a. 25 g of oxygen gas	c. 3×10^{23} molecules of C_2H_6
b. 1.00 mol of H_2O	d. 2×10^{23} molecules of $\text{C}_2\text{H}_6\text{O}_2$
- What is the formula for sodium hydroxide?
 - What is the formula mass of sodium hydroxide?
 - What is the mass in grams of 0.25 mol of sodium hydroxide?
- What is the percentage composition of ethane gas, C_2H_6 , to the nearest whole number?
- Ribose is an important sugar (part of RNA), with a molar mass of 150.15 g/mol. If its empirical formula is CH_2O , what is its molecular formula?

CHAPTER 7 REVIEW

Chemical Formulas and Chemical Compounds

SECTION 7-4

SHORT ANSWER Answer the following questions in the space provided.

1. Write empirical formulas to match the following molecular formulas:

- _____ a. $C_2H_6O_4$
 _____ b. N_2O_5
 _____ c. Hg_2Cl_2
 _____ d. C_6H_{12}

2. _____ A certain hydrocarbon has an empirical formula of CH_2 and a molar mass of 56.12 g/mol. What is its molecular formula?

3. A certain ionic compound is found to contain 0.012 mol of sodium, 0.012 mol of sulfur, and 0.018 mol of oxygen.

- _____ a. What is its empirical formula?
 _____ b. Is this compound a sulfate, sulfite, or neither?

PROBLEMS Write the answer on the line to the left. Show all your work in the space provided.

4. Water of hydration was discussed in Sample Problem 7-11 on pages 227–228 of the text. Strong heating will drive off the water as a vapor in hydrated copper(II) sulfate. Use the data table below to answer the following:

Mass of the empty crucible	4.00 g
Mass of the crucible plus hydrate sample	4.50 g
Mass of the system after heating	4.32 g
Mass of the system after a second heating	4.32 g

- _____ a. Determine the percent water of hydration in the original sample.

SECTION 7-4 continued

_____ b. The compound has the formula $CuSO_4 \cdot xH_2O$. Determine value of x .

c. What might be the purpose of the second heating?

5. Gas X is found to be 24.0% carbon and 76.0% fluorine by mass.

_____ a. Determine the empirical formula of gas X.

_____ b. Given that the molar mass of gas X is 200.04 g/mol, determine its molecular formula.

6. A compound is found to contain 43.2% copper, 24.1% chlorine, and 32.7% oxygen by mass.

_____ a. Determine its empirical formula.

b. What is the correct Stock name of the compound in part a?

Name _____

Ch 7 Study Guide AE Chemistry

Formulas of Compounds:

Ionic Compounds

Use your ion sheet and the criss-cross method to give the formulas of the following ionic compounds.

Potassium iodide

Barium chloride

Lead(II) nitrate

Copper(II) carbonate

Magnesium phosphate

Iron (II) sulfide

Sodium acetate

Ammonium hydroxide

Name the following ionic compounds

KClO₂

Na₂SO₄

Li₂CO₃

CuCl

Pb(OH)₂

Al₂O₃

FeF₂

Mg(NO₃)₂

Covalent Compounds

Write the formulas for the following covalent compounds.

Nitrogen dioxide

Sulfur trioxide

Diphosphorous trioxide

Silicon hexachloride

Carbon disulfide

trinitrogen pentafluoride

Write the name for the following covalent compounds

N₃Cl₅

PO₃

CCl₄

N₅O₁₀

Acids

Write the formulas for the following acids

Hydrobromic acid

Sulfurous acid

Nitric acid

Acetic Acid

Hydrochloric acid

Nitrous acid

Write the name of the following acids

HF

H₂SO₄

HClO

H₂CO₃

H₂S



Percent Composition

Calculate the percent of **Hydrogen** in H_2SO_4 .

Calculate the percentage of water in $\text{BaCl}_2 \cdot 9\text{H}_2\text{O}$.

How many grams of copper can be extracted from 25.0 g of, CuCl_2 ?

What is the law of definite composition?

If 3.14 grams of a hydrate of LiF are heated and 2.10 g of anhydrous salt remain, what is the percentage of water in the hydrate?

2.1 mol OF_2 = ____ ? ____ molecules OF_2

2.5×10^{24} formula units Fe_2O_3 = ____ ? ____ mol Fe_2O_3

0.56 mol CO_2 = ____ ? ____ g CO_2

65 g CaO = ____ ? ____ mol CaO